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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,154

05/19/2006

Hisanori Yamada

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EXAMINER

EVANS, GEOFFREY S

ART UNIT

PAPER NUMBER

3742

MAIL DATE

DELIVERY MODE

05/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,154	YAMADA ET AL.	
	Examiner	Art Unit	
	Geoffrey S. Evans	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060519, 20060817</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Entry of the substitute specification of 19 May 2006 is approved.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahito et al. in Japan Patent No. 62-173,142 in view of Shichizawa in Japan Patent No. 5-200,626. Masahito et al. discloses all of the limitations of claims 1 and 2 (see English language abstract) except completing electric discharge machining when the machining time (T) has elapsed from the start of electric discharge machining. Shichizawa teaches sending a signal to a judgment mechanism when a machining time (T) has elapsed from the start of machining. It would have been obvious to adapt Masahito et al. in view of Shichizawa to provide this to send a signal to the control unit

to stop machining to prevent excessive machining after machining is calculated to be complete.

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahito et al in Japan Patent No. 62-173,412 in view of Shoji et al. in Japan Patent No. 1-289,624. Masahito et al. disclose all of the limitations of claims 3 and 4 (see English language abstract of Mashahito et al.) except completing electric discharge machining when a number of discharges have been completed from the start of machining. Shoji et al. teach that completing electric discharge machining when a number of machining pulses is reached. It would have been obvious to adapt Masahito et al. in view of Shoji et al. to provide this to stop machining to prevent excessive machining after machining is considered to be complete.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magara et al. in U.S. patent No. 5,693,240 in view of Rupert et al. in U.S. Patent No. 4,361,745, Masahito et al. in Japan Patent No. 62-173,412 and Shichizawa in Japan Patent No. 5-200,626. Magara et al. discloses a device for supplying a current pulse with a peak of 1A and a pulse width of 2 microseconds (see column 6, lines 6 and 7, see also element 10 in figure 9), and a numeric controller (element 21). Rupert teaches a input device(keyboard) for inputting machining conditions (see column 3,lines 15-19). Masahito et al. teaches a storage device for storing a database correlating removal volume rate with machining conditions and storing removal volume (v), and a calculating device for extracting the removal volume rate corresponding to the set machining conditions from the storage device, and calculating a machining time (T) based on the

removal volume and the removal volume rate. Schichizawa teaches a device for sending a signal when a machining time (T) has elapsed from the start of electric discharge machining. It would have been obvious to adapt Magara et al., Rupert et al., Masahito et al. and Shichizawa to provide this to provide apparatus to stop machining when the calculated machining time has elapsed.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magara et al. in U.S. patent No. 5,693,240 in view of Rupert et al. in U.S. patent No. 4,361,745, Masahito et al. in Japan Patent No. 62-173,412 and Shoji et al. in Japan Patent No. 1-289,624. Magara et al. discloses a device for supplying a current pulse with a peak of 1A and a pulse width of 2 microseconds (see column 6, lines 6 and 7, see also element 10 in figure 9), and a numeric controller (element 21). Rupert teaches a input device (keyboard) for inputting machining conditions (see column 3, lines 15-19). Masahito et al. teaches a storage device for storing a database correlating removal volume rate with machining conditions and storing removal volume(V), and a calculating device for extracting the removal volume rate corresponding to the set machining conditions from the storage device, and calculating a machining time (T) based on the removal volume and the removal volume rate. Shoji et al. teach that completing electric discharge machining when an effective discharge counter reaches a desired number. It would have been obvious to adapt Magara et al. in view of Rupert et al., Masahito et al. and Shoji et al. to provide this to stop machining when a desired number of electric discharges have presumably removed a total volume (V) from the workpiece.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kita in U.S. patent No. 5,514,941 discloses a numeric control device for predicting a machining termination time. Magara in U.S. Patent No. 5,118,915 discloses pulse widths on the order of one to several microseconds (see column 7, lines 67-68). Morino in Japan Patent No. 63-39,730 calculates the machining time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S. Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 7:00AM to 3:30 PM (flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Geoffrey S Evans/

Primary Examiner, Art Unit 3742